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Uncovering blindspots in the policy debate on platform power

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Final Report

Expert Group for the Observatory on the Online Platform Economy

Uncovering blindspots in the policy debate on platform power



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Executive summary



This report maps different sources and types of power in the platform economy by bringing together existing insights from various disciplines such as law, economics, political science and business strategy. The various strands of research are connected with current policy discussions on how to design and implement platform regulation. The objective is to uncover elements of platform power that deserve more attention, both in relation to the application of current legal regimes and with regard to the development of future regulatory frameworks.

The control exercised by platforms can no longer be adequately captured by merely looking at economic characteristics (such as network effects, and economies of scale and scope) and the existing notion of ‘market power’. The power held by platforms goes beyond control over markets and also directly impacts businesses, consumers and our society at large. While current policy debates focus mainly on concerns relating to the control held by platforms over their business users, attention also needs to be paid to the extent of control exercised over consumers and citizens.

The ability of platforms to influence consumer behaviour is a source of power that deserves better understanding. In addition, more awareness needs to be created about the societal and infrastructural aspects of platform power. The COVID-19 crisis has shed new light on our dependence on platforms and digital technologies in spheres of key public consideration, such as healthcare and education. Digital platforms are also increasingly acting as gatekeepers of public interests, including through their ability to influence democracy through their control over how human rights and freedoms can be exercised via their services. As the impact of the platform economy on vital public interests like innovation, healthcare and democracy keeps expanding, these are decisive moments for establishing the priorities of EU policy and regulation.

1 Introduction

The platform economy has given rise to new sources and types of power that challenge basic concepts upon which existing regulatory frameworks are built. Various policy reports have tried to conceptualize these new forms of power and proposed different terms: digital gatekeepers, unavoidable trading partners, structuring platforms, market players holding strategic market status, market players of paramount significance for competition across markets, etc.

This report takes stock of these discussions and maps to what extent they reflect insights from various academic disciplines on the concerns that the new sources of power in the platform economy raise. In this perspective, Section 2 provides an overview of various sources of platform power including, inter alia, network effects, economies of scale and scope, the role of data as source of power and factors related to consumer behaviour. Section 3 analyses different types of power, in particular power over businesses, consumers and the societal dimension of platform power. The objective is to uncover elements of platform power that deserve more attention, both in relation to the application of current legal regimes and with regard to the development of future regulatory frameworks.

This report starts from the premise that platform power is more than just ‘market power’ in a traditional sense. While market power is a key element of the power wielded by digital platforms, analyzing the role of platforms merely through the lens of competition law and competition economics is too narrow an approach (Lynskey 2017: 27; Busch 2021). The power held by platforms also challenges societies and individuals at large. This includes regulations designed to protect them such as data protection, consumer and media law. Discussions about regulating platform power should therefore not only consider the control held by platforms over their business users but also over consumers. In this regard, the ability of platforms to influence consumer behaviour is a source of power that deserves better understanding. Furthermore, more awareness needs to be created about the societal and infrastructural aspects of platform power (Plantin et al. 2018; Van Dijck et al.: 12-16). In this perspective, it should be considered that large digital platforms are extending their influence into sectors that raise considerations of public policy and societal infrastructure, e.g. public transport, healthcare and education (Busch 2021). The COVID-19 crisis has made the societal and infrastructural role taken up by platforms even more apparent.

2 Sources of power

There is not a single characteristic of digital markets that can be identified as the key source of platform power. Rather, it is a combination of interrelated factors that is responsible for the economic and societal power of certain digital platforms. The following section gives an overview of sources of platform power that have been identified in recent policy reports and research papers.

2.1 Gatekeepers and intermediation power

A key element of platform power is closely related to the role of two-sided platforms as intermediaries who facilitate transactions between different platform users. As a result of their central position platforms may be able to control access to a specific user group that primarily single-homes. As Furman et al. (2019: 41) put it,

“one, or in some cases two firms in certain digital markets have a high degree of control and influence over the relationship between buyers and sellers, or over access by advertisers to potential buyers. As these markets are frequently important routes to market, or gateways for other firms, such bottlenecks are then able to act as a gatekeeper between businesses and their prospective customers.”

For example, through its App Store Apple controls the access of app developers to iPhone users (Bostoen & Mandrescu 2020; Geradin & Katsifis 2020; but see Voelcker & Baker 2020). Similarly, one may argue that Amazon controls the access to consumers who are members of its Prime customer loyalty programme and who make the majority of their purchases via the Amazon website (Busch 2020b: 5). In such a scenario, the platform may become an unavoidable trading partner or gatekeeper and enjoy what has sometimes been referred to as ‘intermediation power’ (Cr  mer et al. 2019: 49) or ‘bottleneck power’ (Scott Morton et al. 2019: 105). Others draw a parallel with the essential facility doctrine and refer to ‘essential platforms’ (Guggenberger 2020).

Such a gatekeeper position enables platforms to assume the role of ‘private regulators’ (Schweitzer 2019) who determine the rules for participating in the exchange of goods and services via the platform. Platform operators are in a unique position to remote control contracts concluded via the platform, define community guidelines and set up reputation system which serve as a crowdsourced governance architecture. In doing so, platforms can rely on algorithm-controlled matching systems that steer the interplay between supply and demand but also between interacting citizens on the platform.

Moreover, public authorities are increasingly involving platforms in their regulatory activity, drawing on their superior operational capacities, access to data and effective means of influencing the behaviour of platform users. For example, local regulators may have to rely on the co-operation of platforms for enforcing short-term rental regulations. In this perspective,

the concept of 'intermediation power' not only relates to the role of digital platform as market intermediaries, but also to their role as 'regulatory intermediaries' (Busch 2020a).

It is important to note however that not all platform firms achieve a position of centrality in the economy. In fact, most platform firms fail, only a very small number does succeed (Yoffie, Gawer & Cusumano, 2019). It is therefore important to distinguish those platforms that reach the status of gatekeeper, versus those that never do. Further, while digital markets may naturally tip to a winner-take-all position following market forces of supply, demand subject to economies of scale and scope both in supply and in demand (the latter are also called network effects), in some cases digital platforms also behave strategically to trigger 'unnatural tipping'. Unnatural tipping occurs when platforms in tight oligopolies abusively hindering competitors, such as via deliberate obstruction of multi-homing or switching from one platform to another.¹

2.2 Platform power evolves over the platform lifecycle

Platform firms evolve over time, as the markets in which they operate are subject to network effects. Consequently their strategy evolves over time. This has implications on any understanding of platform power. Gawer (2020) identifies two phases of the digital platform lifecycle: launch and maturity. She explains: "In the launch phase, before the market tips, nascent platforms are especially vulnerable to competition. If a platform does not win the race for network effects before the market tipping point, it will most likely fail. Winner-takes-all dynamics create a situation where *digital platforms aim for dominance as a survival strategy*. Hence, the digital platform's strategic imperative in its formative years is to achieve scale through network effects."

"Many digital platforms, hoping to achieve dominance, choose to forego fledgling profits in order to bring one or more sides on board. The potential for incumbency rents compensates for early losses (Cr mer et al., 2019). During the maturity phase, however, once markets have tipped, platforms are then likely to prioritize profit-seeking while building or maintaining barriers to entry against rivals or newcomers."

"This sequence of strategic decisions can be observed, for example, in the case of Amazon. As Khan (2017: 749) explains, the premise of Amazon's business model was to establish scale. As Amazon founder and CEO Jeff Bezos wrote in his first letter to shareholders in 1998, "market

¹ As per the Legislative proposal of the German Ministry for Economic Affairs and Energy, digital platforms activities leading to 'unnatural tipping' refer to "an unfair impediment [...] where an undertaking with superior market power on a market [...] impedes competitors' independent attainment of network effects and thereby creates a serious risk of a considerable restriction of competition on the merits." The rule lowers the threshold to "superior market power" and shall provide a legal basis for tackling an undefined number of practices that could lead to an unnatural tipping of markets. See the English translation by D'Kart of the German version of the government draft bill of 9 September 2020: <https://www.d-kart.de/blog/2020/02/21/draft-billthe-translation/>. For the original bill in German: <https://www.bmwi.de/Redaktion/DE/Downloads/Gesetz/gesetzentwurf-gwbdigitalisierungsgesetz.pdf>.

leadership” signaled that “Amazon intended to dominate.”² To achieve scale, the company prioritized growth, leading it to “make decisions and weigh trade-offs differently than some companies”; “we choose to prioritize growth because we believe that scale is central to achieving the potential of our business model” (Bezos, 1997). Lina Khan indicates that although Amazon experienced staggering user and revenue growth, its profits were meagre because it chose to price below cost in order to expand its reach.

In its formative years, Facebook also adopted a policy of prioritizing the growth of its user-base rather than its profits, as Mark Zuckerberg remarked in 2008 (FAZ, 2008): “What every great internet company has done is to figure out a way to make money that has to match to what they are doing on the site. [...] In three years from now, we have to figure out what the optimum model is. But that is not our primary focus today. Growth is primary, revenue is secondary.” Facebook returned its first profit in 2009.

We can therefore expect that digital platform firms’ strategic behaviours with regard to accumulation and maintenance of power will differ depending on their stage of evolution; during the launch phase, they will prioritize the growth of the sides rather than profits by fostering their network effects, aiming to survive and focusing on generating value for users thanks to their intermediation capacity. In contrast, during the maturity phase, the digital platform firms that will have survived are likely to prioritize sustaining their power and prioritize profit. Once the platform market has tipped, platform firms that will have reached asymmetric power over customers or business partners and have reached uncontested positions of gatekeeper power may simply lack the will to self-regulate (Gawer and Srnicek, 2020).

Platforms that reach a gatekeeper position, that is, the ones that survive once the market has tipped, act as a central and unavoidable intermediary between multiple sides. As such they can have the incentive and the ability to abuse this position. Platform firms often claim they have the incentives to maintain trust on their platform, but evidence shows that they can make decisions that can have negative effects on platform users. The effects of these unilateral decisions are made worse in the case of bargaining power imbalance and the lack of viable substitutes to some platforms (Marsden and Podszun, 2020).

2.3 Network effects and switching costs

Many digital platform markets are characterized by strong network effects. Direct (within-group) network effects occur when the benefits to a user increases with the number of users. This type of network effects is relevant for example for social networks and messenger apps.

² In his first letter to shareholders, Jeff Bezos wrote: “We believe that a fundamental measure of our success will be the shareholder value we create over the *long term*. This value will be a direct result of our ability to extend and solidify our current market leadership position... We first measure ourselves in terms of the metrics most indicative of our market leadership: customer and revenue growth, the degree to which our customers continue to purchase from us on a repeat basis, and the strength of our brand. We have invested and will continue to invest aggressively to expand and leverage our customer base, brand, and infrastructure as we move to establish an enduring franchise.” (Bezos, 1997).

Indirect (cross-group) network effects occur when the benefits to users on one side of a multi-sided market increase with the number of users on the other side of the market. This type of network effects is relevant for example for online marketplaces and app stores. Network effects may be further reinforced by the key role of data in digital markets (Stucke 2018). Such 'data-driven network effects' are relevant for example for online search engines, which can improve the quality of search results when more users search a keyword.

The existence of network effects not only facilitates the rapid growth of platforms, it may also create barriers to entry for new competitors. As Crémer et al. (2019: 2) explain,

“it is not enough for a new entrant to offer better quality and/or a lower price than the incumbent does; it also has to convince users of the incumbent to coordinate their migration to its own services. Network effects could thus prevent a superior platform from displacing an established incumbent. The size of this “incumbency advantage” depends on a number of factors, including the possibility of multi-homing, data portability, and data interoperability.”

From the perspective of game theory, this aspect of platform power can be analyzed as a collective action problem resulting from the difficulty for users to coordinate migration to a new platform (Crémer et al. 2019: 22; Peitz 2020: 30). Even if the users would benefit collectively if they all migrated to competing platform, they would not necessarily have an individual incentive to migrate. Their decision to stay or move to a new platform may depend on their expectation that other users will migrate as well. Shapiro and Varian refer to this as the problem of 'collective switching costs', i.e. the combined switching costs of all users (Shapiro & Varian 1999: 184). A new market entrant has to overcome this barrier in order to reach a critical mass of users. Therefore, control over a large user base may be one of the greatest assets of a digital platform (Shapiro & Varian 1999: 185).

Network effects can be overcome where platform users are free to switch between platforms or use multiple competing platforms simultaneously, a practice commonly referred to as multi-homing (Furman et al. 2019: 35). However, several factors may increase the cost or inconvenience of multi-homing or switching between platforms (Furman et al. 1999: 36). For example, consumers or businesses may not be able to transfer their 'reputation capital' (e.g. ratings, trust scores) from one platform to another due to a lack of interoperability between the different reputation systems (Busch 2020b: 13). Even if technical barriers can be overcome, inertia of platform users may lead to a low rate of switching and multi-homing. Thus, incumbent platforms benefit from 'strong preferences for default options and loyalty to brands they know' (Furman et al. 1999: 36).

2.4 Economies of scale and scope

The sources of platform power originally stem from online platforms ability to create value. Platforms principally create value in harnessing the combination of technological factors

(digital technologies, pervasive connectivity and big data analytics) combined with business strategies based on specific business models (so-called platform business models, that often subsidize one side and offer services for free to some users in order to attract them), in an attempt to provide intermediation between groups of users who could not otherwise find each other and exchange (this is what so-called ‘transaction platforms’ do) and/or to provide shared innovation capabilities and access to data for developers of complementary innovation (these are the so-called ‘innovation platforms’, as per Cusumano, Gawer, and Yoffie 2019). Economies of scale and scope are essential to understand the engine of how platforms create value, and without this understanding it is hard to understand the strategic behaviour of platforms.

Digitalization creates a different kind of scale and scope economies. Economies of scale in production exist where the high up-front investment and fixed costs of creating a digital platform is coupled with a low or near-zero marginal cost of additional platform users (Furman et al. 2019: 32). While this aspect is not novel as such and also exists in traditional markets, digital markets, which transcend geographical barriers and constraints, can push such economies of scale to their extremes (Crémer et al. 2019: 2). Moreover, large digital platforms often enjoy privileged access to low-cost capital (Lancieri & Sakowski 2020: 9) which enables them to scale up quickly and benefit from the aforementioned economies of scale.

Even more important for the power of digital platforms is the presence of economies of scope, which have been described by Furman et al. (2019: 32) as follows:

“There are also features of digital markets that mean costs can be reduced, or service quality can be increased, by operating simultaneously across multiple adjacent markets. These economies of scope can be derived through use of existing customer and supplier relationships, branding, sharing of technical expertise, and possibly most importantly, the sharing and merging of consumer data. These strong economies of scope are one reason why the same small number of large digital companies have successfully built ecosystems across several adjacent markets.”

As explained by Crémer et al. (2019: 33):

“these economies of scope can arise from the possession of data which would enable, for instance, the design of a new service using an individual’s data or the training of a new machine-learning algorithm. They can arise from network externalities, leveraging an existing and trusting user base thereby helping resolve the chicken and egg problem of starting a service with strong network externalities. Finally, it could come from the redeployment of technology which has proved fruitful in other areas.”

In reality, and consistent with the quote above, a closer inspection of the phenomenon of consumption and supply of digital services which platforms offer, reveals that such effects cross over the demand side and the supply side. As users do not only consume but generate data, they play in a continuous feedback loop the role of consumers (of data-based services), but they also, in a way that is inseparable, play the role of providers of ingredients to the production (the supply) of these very same services which get continuously updated as the data generated by the users gets incorporated into the algorithms that produce the data-based service. These feedback loops following the data flows generate self-reinforcing mechanisms of value creation.

2.5 Data as a source of power

Almost all recent studies on digital platforms emphasize the key role played by data in digital markets (Lancieri & Sakowski 2020: 15-21). It is probably no exaggeration to say that the large pools of data held by incumbent platforms are “the single biggest barrier to entry in the digital economy” (Furman et al. 2019: 33). Not only can a data-rich platform continuously improve its goods and services by making them more targeted to user preferences, but also can the platform generate higher revenue by offering more targeted advertising to business users (Furman et al. 2019: 33).

The central position as gatekeepers gives platforms a privileged access to large pools of data which are generated in the course of transactions that are facilitated via the platform. These data not only provide information about the preferences and purchase behaviour of individual users. Digital platforms also accumulate ‘social data’, i.e. information that may shed light on other people’s behaviour (e.g. traffic patterns). In economic literature, the fact that data shared by one individual can be used to derive insights about other individuals who did not share their data has been referred to as a data externality. Data externalities can depress prices of data and thereby result into excessive data collection (Bergemann, Bonatti & Gan 2019; Choi, Jeon & Kim 2019; Acemoglu et al. 2019). Moreover, in aggregated form, the data provide an important source for product and process innovations (Cr  mer et al. 2019: 2). In this perspective, digital platforms may benefit from the fact that the cost of acquiring individual data can be substantially below the value of the information to the platform (U.S. House of Representatives 2020: 46). It is expected that the competitive importance of data will even further grow with the development of artificial intelligence (Lancieri & Sakowski 2020: 17).

The role of data as a source of power is closely linked with other factors, in particular economies of scale and scope, as building a digital ecosystem increases the data collection capabilities of platforms. Lancieri and Stakowski (2020: 16) explain this as follows:

“As data are a key input for different products, large digital platforms also enjoy strong economies of scope—that is, they can enter new markets and develop new products at lower costs than entrants or even established players. This leads to a positive cycle

where larger scale and data access strengthens the platform, which then gains even more scale and data.”

In a similar perspective Furman et al. (2019: 33) underline that “economies of scale and scope appear to be particularly strong in relation to the accumulation and use of data relating to consumer behaviour”. Vertically integrated (or hybrid) platforms can also use transaction data generated on the platform to identify customer preferences and trending products. This places the platform in a privileged position to decide whether to enter certain product markets as a supplier. From this perspective, the marketplace can be used as a ‘learning tool’ to identify lucrative business models (Belleflamme & Peitz 2019).

2.6 The role of consumer behaviour

Behavioural biases of platform users can further reinforce the power of digital platform (Peitz 2020: 26). Thus, an assessment of platform power “must take into account insights drawn from behavioural economics about the strength of consumers’ biases towards default options and short-term gratification” (Cr  mer et al. 2019: 4). In a similar vein, Scott Morton et al. (2019: 42) underline,

“the more technological changes enable information sharing and diminish physical barriers to competition, the more human behavior becomes a key variable to hinder effective competition between different companies.”

The recent CMA Report on Online Platforms and Digital Advertisement provides an overview of how platforms can use choice architectures based on consumers’ behavioural biases (UK CMA 2020: Y29). For example, consumer preference for default option may favour incumbent platforms, in particular those with strong brands. In addition, platforms operators may actively exploit psychological weaknesses of platform with the help of so-called ‘dark patterns’ (Luguri & Strahilevitz 2019). For example, they could design user interfaces in a way to make their digital products addictive and increase the time users spend on the platform (e.g. endless scrolls). Against this background it has been suggested to consider the time spent on a platform as metric for assessing platform power (Peitz 2020: 28).

Behavioural biases become even more relevant, where platforms hold detailed information on the behaviour of individual consumers. In this sense, the analysis of consumer data collected on a platform or even across a digital ecosystem allows companies to engage in microtargeting individual consumer preferences with personalized offers or exploit idiosyncratic weaknesses of individual consumer (Wagner & Eidenm  ller 2019).

2.7 Infrastructural power

Taking up a recent call from Plantin et al. one may also analyse platform power through an infrastructural lens (Plantin et al. 2018). From this perspective, digital platforms “constitute

social and material infrastructures at the user level” and, at the same time, “replace or mesh with existing infrastructures” (Plantin & Punathambekar 2019: 164). One prominent example is Google Maps which provides a cartographic infrastructure that serves as a basis for a plethora of private and public services (McQuire 2019). For example, other digital platforms such as Airbnb and Uber are using the Google Maps API for providing information on the location of nearby rideshares or available short-term rentals. With regard to public transport, Google Maps provides real time data on buses and trains and offers predictions on the crowdedness of public transport (Google 2019). More recently, Google Maps introduced a ‘COVID layer’ that shows information about COVID-19 cases in an area (Google 2020). Even critical public services such as the ‘Emergency Information and Warning App’ for smartphones provided by the German Federal Office of Civil Protection and Disaster Assistance relies on cartographic data from Google Maps and Apple Maps (BKK 2020).

Another area where digital platforms are playing an increasingly important role is digital health care. In particular, health data collected via smartphone apps and wearables are becoming a key element of the emerging digital health care infrastructure. While this development undoubtedly offers a large number of opportunities for improving patient care, there are also potential risks. In particular, from an infrastructural perspective, the integration of smartphone apps and wearables into the architecture of health care means that health care services of general interest could become increasingly dependent on large digital platforms who control the access to the operating systems of smartphones and wearables.

This became very clear in the early summer of 2020 in connection with the introduction of corona tracing apps, for which many national governments were dependent on the cooperation of Apple and Google because of their duopoly in the smartphone market (Ramge & Mayer-Schönberger 2020). There was an intense debate about centralised vs. decentralised tracing apps. While those in favour of a centralised approach argued that it could allow a deeper analysis of data for public health purposes, others preferred a decentralised approach for reasons of data protection. In this controversy, Apple and Google backed a decentralised solution which made several national governments switch their plans from centralised to decentralised app (European Parliament 2020; Reuters 2020). While there may good reasons for this technical choice, in particular from a data protection perspective, one could argue that such a decision should be based on a political balancing of public health and data protection concerns rather than influenced by the infrastructural power of digital platforms (Busch 2021).

2.8 From markets to ecosystems?

The difficulty to use existing frameworks to correctly assess the nature of platform power suggest that we need academic experts to develop better theories to help explain and predict the behaviour and impact of platforms and ecosystems in the digital economy. While this scholarly activity might appear abstract to some, such research effort will be important and needs to be supported to help provide the right analytical lenses to interpret a rapidly

changing economic and social reality. In particular, in addition to the development of better computer science, we need the further development of economic theory, management theory, information systems theory, and other social science theories including among others theory of ecosystems, theory of the firm, and theory of data. Better frameworks and theories will be helpful for regulators too.

We need better analytical frameworks because the current technological and economic forces are profoundly challenging the very categories that regulators and market participants have historically relied on to interpret firms' activities to act upon through regulation. For example, the foundational notion of "market", which has been the usual fundamental unit of analysis for the development and application of economic theory of industrial organization leading to economic regulation, who have equated power with "market power", might not be the best or even the appropriate unit of analysis to interpret correctly the behaviour of online platforms and their impact on the economy and society. Whereas the distinction between market sectors, or between industries, used to be stable and meaningful, we see online platform firms appearing to be able to "glide" from market to market, as if, to them, the boundaries between markets were somehow porous or permeable. As digitalization enables the generation of data-driven complementarities across markets and across products and services, a better unit of analysis might be rather that of an ecosystem which can cut across markets or sectors.

As economics has developed a theory of markets, and we see that the concepts of markets are not sufficient to encompass the locus of activities of platform firms, we need to develop a better theory of ecosystems. Some progress has been made (Jacobides, Cennamo, and Gawer, 2018). But more work is needed, because this notion is still quite fuzzy for many theorists and regulators, while the most powerful digital platform firms have mastered the dynamics of these ecosystems. For example, Jacobides, Cennamo and Gawer (2020) distinguish between "multi-actor ecosystems" (which are constellations of actors bound by non-generic complementarities, as Jacobides et al. 2018) and "multi-product ecosystems" which denotes a family of mutually compatible, often mutually enhancing products or services that come together to create an attractive solution. Such multi-product ecosystems would include "the Google ecosystem" (including Android, Google Search, Google Docs, Google Drive, Gmail, Google Maps, etc.); or "the Apple ecosystem" (iOS, iPhone, iPad, MacBook, Apple TV, etc.). In this view, the term "ecosystem" reflects the way in which multiple and interconnected services and products are offered to the end user. The ecosystem owner derives their competitive advantage either from the way the products interact, or from how data is combined, which can allow them to lock in end users. More research is needed on the behaviour of platforms in ecosystems over time, and on how ecosystems develop, coalesce, compete, and evolve. These conceptual developments from research in strategy and their further integration into mainstream economic theory and use by regulators will be a fundamental building block for regulatory action.

Digitalization and pervasive connectivity, combined with big data analytics, also profoundly transform the very nature of the firm. Pervasive surveillance allows remote monitoring of workers and the ability to control the work of individuals without resorting to usual contractual mechanisms such as labour contracts or usual managerial techniques based on proximal oversight. It allows the identification, monitoring, and exploitation of resources that reside outside the usual scope of the firm, giving platforms the opportunity to make new kinds of strategic decisions to design their boundaries in line with their business models. Digital platform boundary design consists in the structural decisions that platform firms make to strategically demarcate their resources and assets, which they govern in different modes.³ As the nature of the firm changes, how to determine its role and responsibilities becomes a salient question that requires more in-depth research.

³ Gawer, A. (2020). "Digital platforms' boundaries: The interplay of firm scope, platform sides, and digital interfaces." Digital platform firms make choices on three interrelated but distinct types of boundaries, including not only on the traditional question of (1) the scope of the firm (what assets are owned, what labour is employed, and what activities are performed by the firm), but also: (2) on the configuration and composition of the platform's sides (which distinct groups of customers have access to the platform), and (3) on its the digital interfaces (that specify the 2-way exchange of data between the platform firm and each of its sides).

3 Types of power

The notion of power has been conceptualized from different perspectives within law, economics, business strategy and political science. A key challenge for current policymaking is that the power held by certain players in the platform economy transcends our current understanding of market power. The power exercised by some digital platforms is not limited to control over markets or control over the price and quality of products and services offered to consumers. Digital platforms are now also acting as gatekeepers of public interests through their ability to impose their own rules on how businesses can innovate and reach consumers via their services, their ability to steer consumer behaviour and consumer choice, and their ability to influence democracy through the algorithmic curating of public discourse and through their control over how human rights and freedoms can be exercised.

3.1 Power over businesses

Power is a core concept in competition law, where it relates to control over the functioning of markets. In economic terms, market power is interpreted as power over price. The legal term dominant position is defined as the ability of an undertaking 'to behave to an appreciable extent independently of its competitors, its customers and ultimately of the consumers' (Hoffmann-La Roche 1979: par. 38). In its Guidance Paper on enforcement priorities of Article 102 TFEU, the Commission notes that 'an undertaking which is capable of profitably increasing prices above the competitive level for a significant period of time' can indeed generally be regarded as dominant. The Commission regards the ways in which other parameters of competition, such as output, innovation, variety or quality of products and services, can be influenced as equivalent to the power of an undertaking to maintain prices above the competitive level (European Commission 2009: par. 11). The assessment of dominance or market power indeed has to be adapted for the platform economy, because services are typically offered free of monetary charge to consumers. Other parameters of competition like quality or innovation therefore take precedence. In addition, the multi-sided nature of platforms needs to be considered to account for the effects across the different customer groups that are brought together.

The extent to which EU competition law should protect competitors as part of its objective to protect the competitive process is a recurrent theme of discussion. While dominant undertakings have a special responsibility not 'to impair genuine undistorted competition on the common market' (Michelin 1983: par. 57), it is also recognized that not every exclusionary effect is detrimental to competition and that competition on the merits by definition can lead to the departure of competitors from the market (Post Danmark I 2012: par. 22). The as-efficient-competitor test is used as a tool to determine how far the protection of competitors should stretch under the special responsibility of dominant firms. In particular, competition law does not protect against 'the marginalisation of competitors that are less efficient and so less attractive to consumers from the point of view of, among other things, price, choice, quality or innovation' (Post Danmark I 2012: par. 22). In other words, competition law does

not aim at supporting weaker rivals that are unlikely to improve the competitiveness of the market or increase consumer welfare. However, in certain circumstances the special responsibility of dominant firms can also apply towards less efficient competitors, as acknowledged by the European Commission and EU Courts. In the context of rebates, the Court of Justice recognized that ‘applying the as-efficient-competitor test is of no relevance inasmuch as the structure of the market makes the emergence of an as-efficient competitor practically impossible’ (Post Danmark II 2015: par. 59). Similarly, the Commission stated in its Guidance Paper on enforcement priorities of Article 102 TFEU that a less efficient competitor may sometimes also exert a constraint that should be taken into account to determine whether there is anticompetitive foreclosure (European Commission 2009: par. 24).

The scope of the special responsibility of dominant firms in relation to the protection of competitors is gaining relevance again, as recent competition cases at the EU level focus on the impact of the behaviour of dominant platforms on the ability of downstream businesses to compete. Examples are the self-preferencing in online search at stake in the *Google Shopping* decision (European Commission 2017), the issue of preferential access to data in the ongoing *Amazon* investigation (European Commission 2020a) and the impact of restrictions applicable to businesses in the App Store and Apple Pay in the *Apple* investigations (European Commission 2020b and c). These cases point at the emergence of notions of equality of opportunity and the creation of a level playing field in competition enforcement. The attention for such notions brings EU competition law closer to national regimes on abuse of economic dependence or relative market power that some Member States have in place. These regimes aim at protecting businesses in a weaker bargaining position and complement competition law, which focuses on protecting the welfare of consumers.

In the context of the platform economy, the recitals to the Platform-to-Business (P2B) Regulation explain how small businesses are increasingly relying on online platforms to reach consumers. This growing dependence provides online platforms with ‘superior bargaining power’, enabling them to act unfair and harm the legitimate interests of their business users as well as of consumers. In particular, the recitals state that online platforms may ‘unilaterally impose on business users practices which grossly deviate from good commercial conduct, or are contrary to good faith and fair dealing’ (P2B Regulation 2019: recital 2). The same phrasing was used in the provisions of the Draft Common Frame of Reference and the Proposal for a Common European Sales Law to assess the unfairness of terms in contracts between businesses (Art. 11.9:405 of the DCFR and Art. 86(1) of the Proposal for a Regulation on a Common European Sales Law). These two instruments were attempts to create a general fairness standard for B2B relations in EU law, but neither of them were successfully adopted as legislation. While there is no general, horizontal B2B protection at the EU level, sector-specific B2B contractual protections exist such as the 2011 Late Payments Directive, the 2006 Misleading and Comparative Advertising Directive and more recently the 2019 Directive on B2B Unfair Trading Practices in the Agricultural and Food Supply Chain.

The P2B Regulation can be regarded as a sector-specific B2B protection mechanism for the platform economy, even though most of its provisions focus on creating transparency. Transparency is required in particular as regards the main parameters determining ranking as well as the reasons for their relative importance (Art. 5), whether platforms engage in any differentiated treatment (Art. 7), and the extent of access to data (Art. 9). However, the P2B Regulation does not ban any practices or prescribe any conduct of platforms in relation to these issues. The P2B Regulation does provide stronger protection to business users in other areas, for instance by imposing a notice period of at least 15 days before the platform can implement changes to its terms and conditions (Art. 3(2)), and by obliging platforms to set up an internal complaint-handling system (Art. 11, with an exception for small enterprises) and to offer the possibility of mediation (Art. 12, with an exception for small enterprises).

The ex ante regulation for gatekeeping platforms in the Digital Markets Act is expected to offer stronger protection to business users by banning certain practices in a black list. Considering the strong position of some online platforms and level of control they hold over businesses, protection beyond EU competition law is indeed welcome to rebalance the different interests. To ensure the consistency of the EU regulatory framework as a whole, clarity on the policy objectives of the ex ante regulation and on the relationship with competition law is key. In particular, the ex ante regulation should complement but not substitute competition enforcement. This can be achieved by designing the ex ante regulation around an objective complementary to competition law's focus on the promotion of consumer welfare, such as offering protection against the dependence of businesses vis-à-vis platforms or stimulating the fairness of platform-to-business relations.

The emphasis on the protection of businesses is also reflected in the notions coined in reports to characterize the power of digital platforms over business users, including terms like intermediation power, unavoidable trading partners, gatekeepers and structuring platforms. While most of these terms focus on the bottleneck power that digital platforms hold vis-à-vis businesses, their level of control over consumers at the other side of their services should not be overlooked. A proper regulatory framework should therefore provide adequate attention to the power exercised by digital platforms towards both customer groups. In other words, consumers should not become a blindspot for policymakers or regulators now new legislation is developed at the EU level to protect business users of platforms.

3.2 Power over consumers

While a better balance between the interests of digital platforms and their business users will indirectly benefit consumers through more choice and better offerings, the interests of consumers also require independent protection. Through the data they hold, digital platforms can exercise control over consumers by profiling individuals and steering their preferences. Although the EU frameworks of consumer and data protection law impose a number of restrictions on such practices, the enforcement of the two regulatory frameworks should be strengthened to offer adequate protection against conduct of powerful digital platforms.

While the substance of the frameworks may be sufficiently flexible to capture this conduct, effective enforcement is yet another challenge.

Shifting the focus from the imposition of negative duties to refrain from certain problematic behaviour to positive duties to show compliance with the rules may help address this challenge. This would allow regulatory authorities to engage in more proactive monitoring against lower enforcement efforts. The principle of accountability in the General Data Protection Regulation (GDPR) is a good example of such a positive duty, requiring data controllers to be responsible for and to be able to demonstrate compliance with the data protection rules (see for instance Art. 5(2) and 24(1) GDPR). Another example is the statement of the Netherlands Authority for Consumers and Markets in its February 2020 Guidelines on the protection of the online consumers that it is for traders to ensure that the design of an online choice architecture is fair and that any default settings must be favourable to consumers (Netherlands Authority for Consumers and Markets 2020: 3). As hinted by the Netherlands Authority for Consumers and Markets, such a positive responsibility of the trader may be based on the notion of 'professional diligence' (Netherlands Authority for Consumers and Markets 2020: 14), which is one of the elements included in the general unfairness clause of Article 5(2) of the Unfair Commercial Practices Directive (Graef & Van Berlo 2020: 23).

Another issue is whether the extent of power held by digital platforms should be integrated into the substantive scope of protection of consumer and data protection law. Drawing inspiration from competition law's special responsibility for dominant firms, the consumer and data protection rules could be interpreted in a way that would result into stricter requirements for more powerful firms. In the context of data protection law, Lynskey refers to the concept of 'data power' to conceptualize the power exercised by firms arising from the control over the data they hold (Lynskey 2019). Open norms such as the 'fairness' of data processing under data protection law as well as the 'fairness' of contract terms and commercial practices and the concept of 'undue influence' under consumer law leave room for imposing an additional responsibility on powerful firms for protecting data subjects and consumers. Criticism on such an approach may be that this leads to a situation where customers of powerful firms benefit from a higher level of protection than customers of less powerful firms, going against the general applicability of the consumer and data protection rules. However, because powerful firms are not constrained by the competitive process, they have a stronger ability to cause harm to consumers who cannot switch to alternative providers. By not considering this market reality in the substantive interpretation of consumer and data protection rules, customers of powerful firms would in fact thus suffer from being less protected. Important to note here is that the integration of market power into the substantive scope of protection of consumer and data protection law would serve as a tool to impose stricter requirements on powerful firms and not to provide small businesses with an opportunity to ignore the rules (Graef & Van Berlo 2020: 7-16).

The GDPR's risk-based approach provides particular room for such an approach by taking into account the level of risk of a data processing activity for determining the scale of the obligations applicable to data controllers (Crémer, De Montjoye & Schweitzer 2019: 77; Lyskey 2019: 189-190 and 197). In addition, certain provisions of the GDPR inherently limit the data processing activities of powerful players to a greater extent. However, the enforcement of these provisions should be strengthened. An example is the call that private web browser Brave made on data protection authorities to enforce the GDPR's purpose limitation principle in order to prevent 'privacy policy tying' whereby firms ask users for their consent to combine all data from many services (Condoirelli & Padilla 2020). The purpose limitation principle requires personal data to be collected for specified, explicit and legitimate purposes and not to be further processed in a manner that is incompatible with those purposes (Art. 5(1)(b) GDPR). A bundling of consent where companies offering multiple services ask data subjects for their consent only once for all services at the same time does not comply with this principle. For this reason, Brave argued that the data advantage from big tech firms stems from a lack of data protection enforcement (Brave 2020: par. 9-21). Effective enforcement of the GDPR's purpose limitation principle would thus not only give data subjects more control over how their personal data is used but will also help address concerns arising from the expansion of market power through the leveraging of personal data across services (Graef & Van Berlo 2020: 18-20).

Competition law is also relevant to address harm from consumer exploitation. However, competition law has not been proactively applied yet to remedy exploitative behaviour by dominant firms in digital markets. An exception is the *Facebook* decision adopted by the German Bundeskartellamt in February 2019. The Bundeskartellamt found that Facebook had abused its dominant position in the market for social networks by making the use of its social network dependent on users agreeing to the combination of data aggregated through Facebook's different services and from third-party sources into a user's Facebook's account. In the view of the Bundeskartellamt, Facebook's terms and conditions violated data protection rules and also constituted an exploitative abuse under German competition law (Bundeskartellamt 2019). Although the case is seen as controversial, it does point at the need for proactive enforcement to protect the ability of consumers to make free and autonomous choices. What the most suitable regulatory framework is for addressing consumer exploitation will depend on the circumstances of the case. As commercial practices increasingly bring the interests protected by consumer, data protection and competition law together, the application of none of these legal regimes should be excluded from the outset.

Currently, structural issues relating to the protection of consumer choice vis-à-vis digital platforms are not effectively addressed yet. This points at the need to rethink the notion of power as exercised by digital platforms towards consumers too. Protecting business users through new ex ante regulation for gatekeeping platforms is not sufficient to achieve a flourishing and diverse platform economy, where not only businesses are treated fairly but freedom of choice of consumers is also promoted. It is worth referring here to the

recommendations of the UK Competition & Markets Authority (CMA) in its July 2020 final report on online platforms and digital advertising that target both the supply and demand side of the markets in which digital platforms compete. On the supply side, the UK CMA proposes to adopt remedies to force platforms with significant market status to provide third-party access to data and to increase interoperability (UK CMA 2020: 352-353). On the demand side, the UK CMA recommends to impose a duty of 'fairness by design' on platforms with strategic market status and to require such platforms to give consumers the choice not to share their data for personalized advertising. The duty of fairness by design would require platforms to design their choice architecture in a way that encourages free and informed consumer choices. The choice requirement obliges platforms to provide consumers the option of a basic service without personalized advertising (UK CMA 2020: 26-27). Even though there are still questions about how to design these remedies, these procompetitive interventions at the supply and demand side acknowledge the combined power digital platforms hold over business users as well as consumers.

3.3 Power over society and democracy

3.3.1 Platforms as regulatory structures of the social

Digital platforms are affecting and transforming basic social structures and institutions to an increasing degree. While platforms may initially have looked like "technical translations of human sociality", digital sociality turned out to be "rather an engineered construct than a result of human social interaction" (van Dijck 2012: 161-162). For Dolata (2018) platforms differ from other businesses in how deeply they reach into society. One key resource of their ordering power consists in data accumulation. The business model of most platforms is based on control over and valorisation of data (Rahman & Thelen 2019). Data collection and analytics provide the basis for new types of (real time) information about individual and collective behaviour. "Platforms realise and act upon data (...) in ways that feed-back, structure, delimit and even determine the circulations of popular culture" (Langley & Leyshon 2017: 19; van Dijck et al. 2018).

The larger a platform, the more data points they are able to collect not only about their users and their interactions but also their networks beyond the platform in question. As a result, platforms amass behavioural information and exercise "an extraordinary control over users' personal data" (Fourcade & Gordon 2020: 94; Zuboff 2019), which exceeds that of most other organisations, including the state: A platform "knows more about voters' personal preferences, political engagement and psychographic trigger points than many governments in this world" (Helberger 2020: 1). Platforms use this information not only for selling targeted advertising, but also as an "instrument for manipulation" (Van Dijck, Nieborg, Poell 2019: 3) for strategically influencing user behaviour.

To the extent that platforms manage to penetrate and “reengineer” social interaction, they are becoming infrastructures, which are assuming a critical role in public and private lives (Langlois & Elmer 2019). Like other, analogue infrastructures, digital platforms are powerful integration machines: By “indexing and pointing to everything” (Bowers & Zittrain 2020), digital platforms enable expanding networks linking people, organisations and objects in algorithmically ‘curated’ ways. They provide specific, often welfare-enhancing, means of interaction across time and space, and, simultaneously, set standards for accessing and making use of them (Ananny 2020; Hofmann 2020). “Communication power” (Castells 2009) or “network power” (Kleis Nielsen & Ganter 2018) indicates that platforms define the socio-technical and legal terms under which users can interact with each other. As “infrastructural intermediaries” (Langley & Leyshon 2017: 19), they set the norms for the “circulations in which they specialise, whether these be ideas, knowledge, labour, or use rights for otherwise idle assets”.

Given their ordering power, platforms can be described as “systems of governance” (Klonick 2018: 1599) or “regulatory structures”, which define “the rules and parameters of action” in an increasingly digitally mediated everyday life (Zysman & Kenney quoted in Rahman & Thelen 2019: 179). Likes, tweets and retweets, followers, following and sharing are examples for reformatted social actions that can be algorithmically measured and ranked as part of “judgement and evaluation systems” that create new forms of social stratification (Langley & Leyshon 2017: 20; Plantin et al. 2018). The “definitional work” on categories of action usually remains hidden so that platforms offer “seemingly natural set of terms and definitions that will become dominant categories of political speech and, thus, the categories used for collective self-governance (Ananny 2020: 361). Hence, crucial points about the infrastructural status of platforms are that it is very difficult, if not impossible, to avoid their use and that using them implies adapting to specific ordering logics inscribed in the services they offer (Fourcade & Gordon 2020; Klonick 2018; Bucher 2012).

3.3.2 Platforms as intermediaries: public sphere

As intermediaries between politics and the people, platforms are restructuring the public sphere. Corporations such as Facebook, Youtube, Twitter and Instagram have become the new gatekeepers or “custodians to the massive, heterogeneous, and contested public realm they have brought into being” (Gillespie 2018: 211). Some observers go so far as to maintain that the public sphere is nowadays “operated by a small number of private companies, based in Silicon Valley” (Bell 2014, quoted after Kleis Nielsen & Ganter 2018). They structure public discourse through rules incorporated in their terms of service and ‘community standards’ but also through architectural affordances (Plantin et al. 2018). Together, these contractual, technical and social norms act as both enabling and restricting means of public speech. User generated content and professional journalism alike benefit from extending their reading reach but at the price of having to adapt to the specific conditions set by platforms (Kleis Nielsen & Ganter 2018). These conditions concern, among other things, popularity-based ranking systems and the personalisation of content but also rules on what can and cannot be

said or shown on platforms. While platforms occasionally comment on their ranking systems, these explanations are too vague for public scrutiny (Rieder & Hofmann forthcoming; Pasquale 2015). The algorithmically calculated relevance practised by platforms gives user generated content more visibility but simultaneously flattens the differences to professional news (Bowers & Zittrain 2020; Klinger & Svensson 2015).

The rise of platforms as new intermediaries implies a shift in “opinion power”, traditionally understood as the media’s capacity to influence public will formation (Helberger 2020: 4). Mass media do no longer control their channels of communication and are “becoming dependent upon increasingly powerful digital intermediaries” (Kleis Nielsen & Ganter 2018: 1602). In order to reach particularly their younger audience, mass media have to publish on relevant platforms and thus bow down to their terms of service. However, using digital platforms’ communication channels may affect their professional reporting standards and weaken their “editorial identity” (Kleis Nielsen & Ganter 2018: 1602). Platforms introduce new ways of exercising opinion power, as Helberger (2020) argues. Platform-based opinion power, constitutes, “above all, the knowledge (data) and the tools to command and organize online attention, and the ability to use that data and algorithmic tools for persuasion (Helberger 2020: 5). In light of the rising influence that platforms exert on the public discourse, they should therefore be regarded as “political actors in their own right” (Helberger 2020: 2).

3.3.3 Democracy: platforms as active agents

Given that public discourse constitutes a crucial source of democratic will formation, the structural transformation of the public sphere affects democracy in various ways. First, platforms are becoming powerful agenda setters. Journalistic standards of relevance are now competing with a probabilistic calculation of popularity (Ananny 2020) in determining the visibility of political actors and news. The new diversity of curating news brings about a growing diversity of political content (Bennett & Pfetsch 2018). Populist arguments and vocabularies that used to be marginal in the public discourse of most European countries have gained visibility to an extent, which were unimaginable just a few years ago. As a result, disinformation and defamation strategies are undergoing a process of normalization, and the traditional limits of what can be said in public are eroding (Krzyżanowski 2020; Benkler et al. 2017).

Second, the relationship between political actors and their audience is changing. Political representatives do no longer solely rely on mass media for communication and have come to use platforms as a means for directly interacting with the public. Reinforced by mass media reporting, platforms are subjecting the interaction between politicians and their constituencies to a logic of content curation, which tends to award the extreme and shocking at the expense of the thoughtful point of view. Content curation by platforms thus fuels polarisation dynamics, while the self-promotion of politicians supports the trend towards personalizing political reporting and analysis (Manow 2020).

Third, the new dependence of political communication on platforms becomes particularly evident with regard to elections. Platforms do not only provide paid advertising space they facilitate new forms of micro-targeting individual voters that circumvent public scrutiny (Tufekci 2014). With the help of platform data, political parties are able to disseminate personalized content to voters that is closed off from public view and thus of critical inspection by third parties. As Kreiss and McGregor (2017: 1) have shown, platform companies also intervene “as active agents” in election campaigns by advising political candidates across the political spectrum on how to effectively address the electorate. While the impact of platformisation of election campaigns on the outcome of elections is uncertain and disputed, there are clear detrimental effects on democratic norms, as Karpf (2020) argues. If lying to the public creates reliable media attention but no negative consequences for breaking the rules, the trust in democratic institutions may suffer: “Disinformation and propaganda are not dangerous because they effectively trick or misinform otherwise-attentive voters; they are dangerous because they disabuse political elites of some crucial assumptions about the consequences of violating the public trust” (Karpf 2019).

3.3.4 Regulation: treating platforms as facilitators of speech

In light of their growing infrastructural power, the business models of platforms are becoming subject to governmental regulation. With regard to the public realm, regulatory strategies particularly target content moderation. Due to the sheer amount of content being published, governments are enrolling platforms “as proxies of the state to enforce laws and sometimes governing conduct in ways that have law-like effect” (Fourcade & Gordon 2020: 94). However, regulatory strategies aiming to restrict platform power and make it more accountable tend to produce paradoxical, power-enhancing outcomes. By requiring platforms to enforce media laws, as Helberger (2020: 7) points out, current legislative approaches “quite literally establish platform governance, by making platforms the primary governors of online communication. The major regulatory initiatives that are on the table in Europe treat social media platforms as facilitators of the speech of others”.

A better understanding of the infrastructural aspects of platform power is key to effectively address harm resulting from the behaviour of platforms to society and democracy. More awareness about the impact of these effects is needed to ensure that future regulatory initiatives reach their objective of controlling the ways platforms exercise power over broader considerations of public policy.

4 Conclusion

The sources and types of power show the complexity of characterizing the wide-ranging control platforms hold over different aspects of our lives, our economy and our society. While platform power has been conceptualized in detail in scholarship as well as numerous reports and studies, we have attempted to emphasize elements that so far remain underaddressed in these discussions.

As regards sources of power, it is important to look beyond 'mere' economic characteristics, such as network effects and economies of scale and scope, and also create a better understanding of how the ability of platforms to influence consumer behaviour impacts the power relationships on and between platforms. Moreover, the infrastructural aspects of platform power may require further research.

With respect to types of power, most of the current discussions seems to focus on how to complement competition law by protecting business users and promoting the fairness of platform-to-business relationships. Although this is indeed a key area of concern, the power held by platforms over individual consumers and citizens as well as over our society and democracy also deserves further scrutiny. In particular, more awareness is needed about the societal and infrastructural elements of platform power that are now reaching a crucial stage where a balance needs to be found in how far and under what conditions platforms should influence these aspects. As the impact of the platform economy on vital public interests like innovation, healthcare and democracy keeps expanding, these are decisive moments for establishing the priorities of EU policy and regulation.

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